

WHAT IS CLAIMED IS:

1. A hard disk drive (HDD) comprising:
at least one rotatable disk;
at least one write element configured for writing data to the disk in tracks,
wherein at least two contiguous tracks establish a band; and
at least one HDD controller controlling the write element, the controller
causing no more than one of: a single data file, and a single audio video (AV) data
stream, to be written to a band.
2. The HDD of Claim 1, wherein at least some bands include at least three
contiguous tracks.
3. The HDD of Claim 1, wherein the tracks are concentric to each other.
4. The HDD of Claim 1, wherein the write element is configured for
perpendicular recording.
5. The HDD of Claim 1, wherein a first band has a first number of tracks and a
second band has a second number of bands different from the first.

6. The HDD of Claim 1, wherein isolated tracks are used to store data requiring random write access and bands are used to store data requiring sequential write access.

7. The HDD of Claim 1, wherein at least one band contains data from one and only one audio video (AV) data stream.

8. The HDD of Claim 7, wherein the size of bands used to store AV data are larger than an AV transaction block size, the transaction block size being larger than a sector size.

9. The HDD of Claim 1, wherein at least some tracks are shingled.

10. The HDD of Claim 1, wherein the controller stores, for each file or AV data stream, a list of bands associated therewith.

11. A data storage system, comprising:

at least one data storage disk;

at least one write element configured for writing data to the disk; and

at least one controller controlling the write element to write data onto the disk

at least in bands, each band containing no more than one data file or one AV data

stream, each band being established by at least two contiguous data tracks.

12. The system of Claim 11, wherein at least some tracks are shingled.

13. The system of Claim 11, wherein at least some bands include at least three contiguous tracks.

14. The system of Claim 11, wherein the write element is configured for perpendicular recording.

15. The system of Claim 11, wherein a first band has a first number of tracks and a second band has a second number of tracks different from the first.

16. The system of Claim 11, wherein isolated tracks are used to store data requiring random write access and bands are used to store data requiring sequential write access.

17. The system of Claim 11, wherein at least one band contains data from one and only one AV data stream.

18. The system of Claim 17, wherein the size of at least one band used to store AV data is larger than an AV transaction block size, the transaction block size being larger than a sector size.

19. The system of Claim 11, wherein the controller stores, for each file or AV data stream, a list of bands associated therewith.

20. A hard disk drive, comprising:

disk storage means for holding data in at least one of: bands, and isolated tracks;

means for writing data to the disk storage means; and

means for controlling the means for writing such that data from one of: a single file, and a single AV data stream, is written to a band on the disk storage means.

21. The HDD of Claim 20, wherein the means for controlling causes the means for writing to write shingled tracks.

22. The HDD of Claim 21, wherein the means for writing is configured for perpendicular recording.

23. The HDD of Claim 21, wherein a first band has a first number of tracks and a second band has a second number of tracks different from the first.

24. The HDD of Claim 21, wherein the disk storage means is partitioned into isolated tracks and bands of tracks.

25. The HDD of Claim 21, wherein audio video (AV) data is stored in at least one band.

26. The HDD of Claim 25, wherein the sizes of bands are larger than an AV transaction block size.

27. The HDD of Claim 21, wherein the means for controlling stores, for each file or AV data stream, a list of bands associated therewith.

28. A hard disk drive, comprising:

means for writing data to a disk;

means for computing error correction code parity on written data; and

means for controlling the means for writing such that error correction code

parity from a first write operation is used to generate error correction code parity for a second write operation subsequent to the first write operation.